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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/037,450 | 12/20/2001 | Ricky Alton Adams | KCC-15,860 | 4839 |

35844 7590 08/26/2003

PAULEY PETERSEN KINNE & ERICKSON
2800 WEST HIGGINS ROAD
SUITE 365
HOFFMAN ESTATES, IL 60195

EXAMINER

BOYD, JENNIFER A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1771

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/037,450 | Applicant(s) ADAMS ET AL. | |
| | Examiner Jennifer A Boyd | Art Unit 1771 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5 pages</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1771

DETAILED ACTION

Claim Objections

1. Claims 2, 4, 6, 9, 11, 12, 13, 15, 17, 20, 22, 23, 24 and 25 are objected to because of the following informalities: please remove the colon from the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 3, 6 - 8, 13 - 14 and 17 - 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 19 are rejected as being dependent on rejected claims.

4. Regarding claims 3 and 14, the phrase "such" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

5. Regarding claims 2, 3, 6, 7, 13, 17 and 18, the phrase "type" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "type"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

Art Unit: 1771

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1 – 11, 13 – 22 and 24 – 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Erspamer (WO 01/35886 A1).

Erspamer is directed to absorbent structures used in a wide range of disposable articles, including baby diapers, adult incontinence products, sanitary napkins and the like (page 2, lines 1 – 5).

As to claim 1, Erspamer teaches a unitary absorbent core comprising one or more strata of absorbent material, in which one or more of the properties of the basis weight, functional particle content, or density of at least one of the strata is profiled in the y-direction (page 7, lines 15 – 19). Erspamer defines *stratum* as a layer, which is preferably airlaid, comprising deposited fibers, powders including additives and functional particles, such as SAP and binders (page 16, lines 6 – 13). The Examiner equates the one or more *strata* to the Applicant's "multiple layers of composite material". Erspamer notes that, in certain embodiments, the structure may be profiled in both the y- and z-directions (page 19, lines 1 - 3). Therefore, in those embodiments, both the y- and z-directions can vary in one or more of the properties of the basis weight, functional particle content, or density. Erspamer teaches that striped stratum can be used in particular embodiments as seen in Figures 3 and 4h (page 19, lines 20 – 25 and page 23, lines 3 – 8). Erspamer defines *striped stratum* as a special case of a profiled stratum in which one or more of the absorbent material basis weight, density or content of functional particles in the stratum drop

Art Unit: 1771

to very low levels or zero for a finite length in the y-direction. This is equated to Applicant's "zones of different material layers intermittently placed in one of the machine direction or the cross direction". The finite length can be parceled into discontinuous segments and can be distributed in a uniform pattern in the y-direction (page 16, lines 17 – 22). It should be noted that it has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

As to claims 2 - 5, Erspamer teaches in Example 1 that samples A, B and C are three-strata, unitary absorbent cores. The first or bottom wicking stratum comprises 70 gsm (74 wt. %) of Grade ND-416 pulp (Weyerhaeuser Co.; Tacoma, WA), 7 gsm (7 wt. %) of bicomponent binder fiber and 18 gsm (19 wt. %) of carrier tissue. The middle storage stratum comprises 50 gsm (47 wt. %) of Grade HPF pulp, 50 gsm (47 wt. %) of Favor SXM 70 superabsorbent powder and 7 gsm (6 wt. %) of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) (page 56, lines 8 – 13). Erspamer notes that in Samples B and C the second or middle storage stratum has absorbent material concentrated in a zone located at the center of the samples (page 56, lines 15 – 17). It should be noted that the bottom wicking stratum comprises 74 weight percent of Grade ND-416 pulp and the middle storage stratum contains 47 weight percent of Favor SXM 70 superabsorbent powder creating a gradient in the z-direction of the type of absorbent and the amount of absorbent which can be calculated in weight percent.

As to claims 6 and 7, Erspamer teaches that the type of fibers can be varied in each stratum (page 36, lines 20 – 25). Erspamer teaches that suitable fibers for the unitary absorbent core include various thermoplastic matrix fibers such as polyethylene, polypropylene and polyester including PET (page 26, lines 17 – 19).

Art Unit: 1771

As to claims 8 and 18 - 21, Erspamer teaches in Example 1 that samples A, B and C are three-strata, unitary absorbent cores. The third or top acquisition stratum comprises 25 gsm (80 wt. %) of polyester staple fiber (15 dpf X 6mm, Grade 376X2, Wellman, Inc.; Johnsonville, SC) to which was applied 6 gsm (20 wt. %) of emulsion binder (page 56, lines 4 - 8). The middle storage stratum comprises 50 gsm (47 wt. %) of Grade HPF pulp, 50 gsm (47 wt. %) of Favor SXM 70 superabsorbent powder and 7 gsm (6 wt. %) of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) (page 56, lines 8 - 13). Erspamer notes that in Samples B and C the second or middle storage stratum has absorbent material concentrated in a zone located at the center of the samples (page 56, lines 15 - 17). It should be noted that the top stratum contains 80 weight percent of polyester staple fiber (15 dpf X 6mm, Grade 376X2, Wellman, Inc.; Johnsonville, SC) and the middle storage stratum contains 6 weight percent of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) creating a gradient in the z-direction of type of polymer used for the thermoplastic fibers, denier of the thermoplastic fibers and amount of thermoplastic fibers which can be calculated in weight percent.

As to claim 9, Erspamer teaches that the amounts of fibers can be varied in each stratum or zone (page 36, lines 20 - 25). Erspamer teaches that suitable fibers for the unitary absorbent core include various thermoplastic matrix fibers such as polyethylene, polypropylene and polyester including PET (page 26, lines 17 - 19).

As to claim 10, Erspamer teaches a variation of fiber type as discussed above. A common unit of measurement of fiber or material content is weight percentage.

Art Unit: 1771

As to claim 11, Erspamer teaches a unitary absorbent in the density of at least one of the strata is profiled in the y-direction (page 7, lines 15 – 19) and, in some embodiments, in the z-direction (page 19, lines 1 - 3).

As to claim 13, Erspamer teaches that the type of functional particles, such as superabsorbent polymers (SAPs), can be varied in each stratum or zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 14, Erspamer teaches various types of SAP or superabsorbent polymer particles such as irregular granules, spherical particles, staple fibers and other elongated particles (page 30, lines 1 – 6). Erspamer teaches various particles useful in the invention are available from a number of manufacturers such as Dow Chemical, Stockhausen and Chemdal (page 30, lines 10 – 14).

As to claim 15, Erspamer teaches that the amount of functional particles, such as superabsorbent polymers (SAPs), can be varied in zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 16, Erspamer teaches a variation in the amount of absorbent as discussed above. A common unit of measurement of fiber or material content is weight percentage.

As to claim 17, Erspamer teaches that the type of polymer used for the thermoplastic fibers can be varied in each stratum or zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

Art Unit: 1771

As to claim 22, Erspamer teaches that the density can be varied in each stratum or zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 24, Erspamer teaches that individualized fibers optionally mixed with functional particles are air conveyed to one or more forming heads on an airlaid web forming machine. The forming head disposes the stratum in the forming wire (page 34, lines 6 – 12). Because the stratum are not made into separate layers and then integrated together, the procedure as described creates comparatively less defined boundaries between the stratum.

As to claim 25, Erspamer teaches that in some embodiments the structures of the invention contain carrier tissues for the stratum (page 34, lines 13 – 15).

As to claim 26, Erspamer teaches that the core is prepared as an airlaid web (page 34, lines 6 – 8).

As to claim 27, Erspamer teaches in Example 1 that samples A, B and C are three-strata, unitary absorbent cores. The first or bottom wicking stratum comprises 70 gsm (74 wt. %) of Grade ND-416 pulp (Weyerhaeuser Co.; Tacoma, WA), 7 gsm (7 wt. %) of bicomponent binder fiber and 18 gsm (19 wt. %) of carrier tissue. The middle storage stratum comprises 50 gsm (47 wt. %) of Grade HPF pulp, 50 gsm (47 wt. %) of Favor SXM 70 superabsorbent powder and 7 gsm (6 wt. %) of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) (page 56, lines 8 – 13). The Examiner equates the pulp and superabsorbent powder to Applicant's "absorbent material" and the binder fiber and bicomponent binder fiber to Applicant's "thermoplastic material". Erspamer notes that in Samples B and C the second or middle storage stratum has absorbent material concentrated in a zone located at the center of the samples (page 56, lines 15

Art Unit: 1771

- 17), creating Applicant's "zones" in the "cross-machine direction". It should be noted that the bottom wicking stratum comprises 74 weight percent of Grade ND-416 pulp and 7 weight percent of the bicomponent binder fiber. Additionally, the middle storage stratum contains 47 weight percent of Favor SXM 70 superabsorbent powder and 6 weight percent of the bicomponent binder fiber creating a gradient in the z-direction of the type of absorbent, the amount of absorbent which can be calculated in weight percent and the amount of thermoplastic fiber in each layer. It should be noted that it has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

As to claims 28, 29 and 30, Erspamer teaches a unitary absorbent core comprising one or more strata of absorbent material, in which one or more of the properties of the basis weight, functional particle content, or density of at least one of the strata is profiled in the y-direction, or "cross-machine direction" (page 7, lines 15 - 19). Erspamer defines *stratum* as a layer, which is preferably airlaid, comprising deposited fibers such as thermoplastic fibers, powders including additives and functional particles, such as superabsorbent polymers or SAP and binders (page 16, lines 6 - 13). The Examiner equates the one or more *strata* to the Applicant's "multiple layers of air laid composite material". Erspamer notes that, in certain embodiments, the structure may be profiled, or have a gradient, in both the y- and z-directions (page 19, lines 1 - 3). Therefore, in those embodiments, both the y- and z-directions can vary in one or more of the properties of the basis weight, functional particle content, or density. Erspamer teaches that striped stratum can be used in particular embodiments as seen in Figures 3 and 4h (page 19, lines 20 - 25 and page 23, lines 3 - 8). Erspamer defines *striped stratum* as a special case of a profiled stratum in which

Art Unit: 1771

one or more of the absorbent material basis weight, density or content of functional particles in the stratum drop to very low levels or zero for a finite length in the y-direction, or in the “cross-machine direction”. Additionally, the zones can vary in the types and amounts of fibers and functional particles (page 36, lines 20 – 25). The finite length can be parceled into discontinuous segments and can be distributed in a uniform pattern in the y-direction or “cross-machine direction” (page 16, lines 17 – 22). It should be noted that it has been held that the functional “whereby” statement does not define any structure and accordingly can not serve to distinguish.

In re Mason, 114 USPQ 127, 44 CCPA 937 (1957).

8. Claims 1, 12 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Rosenfeld (EP 1,110,528 A2).

Rosenfeld is directed to disposable absorbent articles used for absorbing body fluids and other exudates (column 1, lines 13 – 15).

As to claim 1, Rosenfeld teaches an absorbent structure which has an integral structure and includes a first high absorbency zone separated from a second high absorbency zone by a portion of the thickness of the absorbent element. The high absorbency zones have absorbent fibers and superabsorbent polymer particles (Abstract). The first and second high absorbency zones are equated to Applicant’s “multiple layers of composite material”. It should be noted that is not necessary that the zones contain the same percentage or the same type of superabsorbent polymer particles (column 8, lines 25 – 30), therefore, the zones can have different compositions creating a gradient in the z-direction. The high absorbency zones can extend across the entire surface of the absorbent element or may be confined to one or more localized regions such as being solely in a central region (column 9, lines 30 – 40). The localized regions of absorbent

Art Unit: 1771

zones are equated to the "zones of different material layers intermittently placed in one of the machine direction or cross-machine direction".

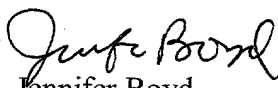
As to claim 12, Rosenfeld teaches that the absorbent structure can have the first high absorbency zone thickness be different than the second high absorbency thickness (column 7, lines 40 – 47), creating a gradient in the z-direction.

As to claim 23, Rosenfeld teaches that the thickness of the first and second high absorbency zones may be uniform through the expanse of the element or have a tapered profile in certain areas, such as the central region, which are thicker than other areas (column 9, lines 50 – 57).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
August 20, 2003

